

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
EUGENE DIVISION

CASCADIA WILDLANDS, THE
CENTER FOR BIOLOGICAL
DIVERSITY, and AUDUBON SOCIETY
OF PORTLAND,

Case No. 6:16-cv-01710-AA

**AMENDED
OPINION AND ORDER**

Plaintiffs,

v.

SCOTT TIMBER CO., ROSEBURG
RESOURCES CO., and RLC
INDUSTRIES CO.,

Defendants.

Aiken, District Judge:

This case involves a citizen suit under the Endangered Species Act (“ESA”) 16 U.S.C. § 1540(g)(1)(A). Plaintiffs are environmental organizations Cascadia Wildlands, the Center for Biological Diversity, and the Audubon Society of Portland. Plaintiffs seek to permanently enjoin Defendants, private timber companies Scott Timber Company, Roseburg Resources Company, and RLC Industries Company, from logging on the Benson Ridge Tract, a private parcel of land Defendants purchased from the State of Oregon, formerly part of the Elliott State Forest in the

Coastal Range of Oregon. Plaintiffs allege that Defendants' logging project, titled the "Benson Snake" will "take" marbled murrelets, a threatened species of sea bird, in violation of section 9 of the ESA, 16 U.S.C. § 1538(a)(1)(B).

BACKGROUND

This case concerns the now titled "Benson Ridge Tract," also known as "Benson Ridge," which was once part of the Elliott State Forest, owned and managed by the State of Oregon. Benson Ridge was sold to Defendants by the Oregon Department of State Lands ("DSL") in 2014. The sale followed a preliminary injunction issued by the Court against DSL, prohibiting logging in any occupied marbled murrelet habitat in Benson Ridge and the Elliott State Forest. *See Cascadia Wildlands v. Kitzhaber*, 3:12-cv-00961-AA (D. Or. Nov. 19, 2012) (ECF No. 71). The entire history of this case is known to the parties and is not set forth in full here.

After Defendants purchased Benson Ridge from the State of Oregon, on August 25, 2016, Plaintiffs filed this action and moved for a preliminary injunction to prevent Defendants from executing the Benson Snake logging operation. ECF No. 2. On December 19, 2016, following a hearing on the motion, the Court granted Plaintiffs' motion and entered a preliminary injunction. *Cascadia Wildlands v. Scott Timber Co.*, 190 F. Supp. 3d 1024 (D. Or. 2016). Defendants appealed the entry of the preliminary injunction.

On November 16, 2017, the Ninth Circuit reversed and remanded. *Cascadia Wildlands v. Scott Timber Co.*, 715 F. App'x 621, 625 (9th Cir. 2017) (unpublished). On appeal, the Ninth Circuit upheld the finding that Plaintiffs had standing based

on Cascadia Wildlands’ alleged injury—diminished ability to view the marbled murrelets. *Id.* at 623. The Ninth Circuit also upheld findings on three of the four preliminary injunction factors but remanded to determine whether “it was *likely* that marbled murrelets inhabited the area in question and would be harmed by the project.” *Id.* at 24-25 (emphasis in original).

On remand, the parties agreed to forego further hearings on the preliminary injunction in favor of an expedited trial schedule. The parties also agreed to consolidate the hearing on the parties’ *Daubert* objections to each other’s expert witnesses and scientific evidence with the trial on the merits. The Court held a five-day consolidated *Daubert* hearing and merits bench trial, beginning May 6, 2019, to determine whether the marbled murrelet occupies the proposed timber harvest area and, if so, whether Defendants’ implementation of the Benson Snake project will result in a “take” of the species in violation of the ESA.

FINDINGS OF FACT

The findings in this section are not comprehensive of every fact the Court deems reliable presented in the course of the five-day trial and transcribed in no less than 1,200 pages, together with over 250 pages of trial memoranda, pretrial motions, declarations, and hundreds of voluminous exhibits. Rather, the findings below have been selected to provide the parties with the record needed to identify how the Court arrived at its legal conclusion.

I. The Parties, Jurisdiction, and Venue

Prior to trial, the parties stipulated to certain facts and set forth those stipulations in the jointly prepared Pretrial Order, ECF No. 120. Other facts are drawn from exhibits, declarations, testimony at trial, and the parties' pre- and post-trial briefing.

Plaintiffs are non-profit environmental organizations whose purposes and missions include protecting threatened and endangered wildlife, including marbled murrelets, and their habitat. The protection of marbled murrelets and their forested habitat is germane to Plaintiffs' organizational purposes. Pretrial Order, ECF No. 120 at 2-3.

Rosemary Francis Eatherington ("Eatherington") and Max Beeken ("Beeken") are members of Plaintiff Cascadia Wildlands. *Id.* at 3.

Defendants are Domestic Business Corporations in the State of Oregon. Defendants' corporate entities have the same address, primary place of business, president, secretary, and registered agent. *Id.*

Plaintiffs have met the jurisdictional prerequisites set out in the citizen-suit provision of the ESA. 16 U.S.C. § 1540(g). Specifically, Plaintiffs and Defendants qualify as "person[s]" as the term is defined in 16 U.S.C. § 1532(13). Plaintiffs gave at least sixty days written notice to the Secretary and Defendants as required by § 1540(g)(2)(A)(i), and Plaintiffs filed this action in the judicial district in which the alleged ESA violation occurred as required by § 1540(g)(3)(A). In the Court's Opinion

denying Defendants' Motion to Dismiss, the Court affirmed that Plaintiffs' pre-suit notice was legally sufficient. *Cascadia Wildlands*, 328 F. Supp. 3d at 1130-33.

II. Plaintiffs Proved Standing

In earlier stages of this case, both this Court and the Ninth Circuit held that Plaintiffs established standing. *Cascadia Wildlands*, 190 F. Supp. 3d at 1030-32 (preliminary injunction stage); *Cascadia Wildlands*, 715 F. App'x at 623 (preliminary injunction appeal); *Cascadia Wildlands v. Scott Timber Co.*, No. 6:16-CV-01710-AA, 2018 WL 3614202 (D. Or. July 27, 2018) (summary judgment stage).

The jurisdictional requirements of Article III necessitate that Plaintiffs establish standing at every stage of the proceeding, including trial. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 561 (1992) (standing must be “supported adequately by the evidence adduced at trial[.]”). To establish Article III standing, the plaintiff must show (1) an injury in fact, which is an injury that is concrete and particularized, and actual or imminent; (2) a causal connection between the injury and the conduct; and (3) a likelihood that the injury will be redressed by a favorable decision. *Id.* at 560-61.

Organizational plaintiffs like Cascadia Wildlands, the Center for Biological Diversity, and Audubon Society of Portland “may have standing in [their] own right to seek judicial relief from injury to” themselves. *Rodriguez v. City of San Jose*, 930 F.3d 1123, 1134 (9th Cir. 2019). An organization may also have standing to bring claims on behalf of its members if (1) “its members would otherwise have standing to sue in their own right,” (2) “the interests at stake are germane to the organization’s

purpose,” and (3) “neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.” *Friends of the Earth, Inc. v. Laidlaw Envt'l Servs. (TOC), Inc.*, 528 U.S. 167, 181 (2000).

Having observed Plaintiffs’ live testimony, the Court finds that Plaintiffs have provided evidence to prove standing to pursue this case.

A. *Injury “in Fact”*

Eatherington, a member of Plaintiff Cascadia Wildlands who has lived near Roseburg, Oregon since 1975, described her decades-long work in forest conservation. Tr. Vol. 1 at 49. Eatherington regularly uses and enjoys forests for recreation and aesthetic pursuits, particularly in the Elliot State Forest, which she has been visiting since 2002. *Id.* at 51-52. Eatherington also described her enjoyment of bird watching in old growth forests and photographing big trees, including trees in Benson Ridge. *Id.* at 53, 58, 70; *see also* Pls.’ Exs. 35-39 (photographs Eatherington took visiting Benson Ridge in 2016 and 2018). Eatherington explained that to see Benson Ridge clearcut “would be devastating” and that it would be “very, very hard to live with that.” Tr. Vol. 1 at 78. Eatherington stated that “[b]eing in the Elliot and appreciating the Elliott and speaking up for the Elliott” has been a significant part of her work in the past 15 to 20 years. *Id.* at 54.

As to marbled murrelets, Eatherington has camped, awoken at dawn, and looked for murrelets in the Elliot State Forest roughly “a dozen times.” *Id.* at 55. She participates in organized trips to look for murrelets and has undertaken formal training to conduct surveys. *Id.* at 56. Though Eatherington has not conducted a

formal murrelet survey, she expects to take advantage of opportunities to look for murrelets in the Elliot State Forest. *Id.* at 80. Eatherington has not looked for murrelets in the Benson Ridge Tract but expressed that “if murrelets were extricated” due to logging, “[t]here would be less murrelets to procreate. And that's just one example of the wildlife I enjoy seeing, and I would see much less of if this parcel were clearcut.” *Id.* at 78.

Defendants attempted to impeach Eatherington with prior statements from her August 2016 declaration and March 2018 deposition concerning whether she had “definite plans” to visit Benson Ridge. *Id.* at 83-84.

The Court find that Eatherington is a credible witness and is not persuaded by Defendants’ attempt to impeach her testimony with prior statements from her August 2016 declaration and March 2018 deposition. In context, there are no inconsistencies between her prior statements or between those statements and her trial testimony.

Eatherington has consistently averred that she plans to visit the Elliott State Forest in the future, including the 4000 road that goes directly through Benson Ridge. *Id.* at 89. Her past use of and proximity to the area shows that this is likely enough to count as “definite,” as the term is used colloquially, even if concrete plans on specific dates sometimes fall through. Having viewed Eatherington’s live testimony, the Court finds that she testified truthfully and sincerely at trial. Eatherington established an injury cognizable as a recreational and aesthetic injury. *See Sierra Club v. Morton*, 405 U.S. 727, 734, (1972). Eatherington testified that she plans to visit the Benson Ridge area to view marbled murrelets in the near future, a factor

important to the Court's consideration of whether the injury is imminent. *Lujan*, 504 U.S. at 564.

Beeken, a member of Plaintiff Cascadia Wildlands, first visited the Elliott State Forest in 2012 and has been there approximately 150 times. Tr. Vol. 1 at 108. Beeken explained that since 2012, he returns "to the Elliott several times a year" to conduct "murrelet surveys, to go hiking and bird watching, to gather mushrooms," and also for "wildlife viewing and swimming in the river." Beeken testified that he "lived very close to the border of the Elliott for a couple of years, [he] went quite often during that time, and [he] still go[es] back and visit[s] a couple times a year at least." *Id.* at 108

When asked if he enjoys being in the woods, Beeken responded, "I love it." *Id.* at 109. He explained that the Elliott State Forest is unique in that much of the forest has not been logged before. *Id.* at 94.

Beeken is familiar with the Benson Ridge parcel and first visited there in 2013. *Id.* at 109-110. He explained, "I've been through [Benson Ridge] several times using the 4000 road to access the interior of the Elliott State Forest. And I've also visited there several times to do bird watching, camping, and looking for marbled murrelets." *Id.* at 139. Beeken enjoys the Benson Ridge parcel because "it contains a lot of older forests" and "there's some pockets of really nice trees in there. It's nice to see." *Id.* at 110. He continued: "I enjoy that there's a whole mix of different kind of trees and plants to look at. I love that it's so steep and it contains older forests. That is rare in other places in the Coast Range." *Id.* at 143.

Regarding his interest in marbled murrelets, Beeken testified that he has a degree in wildlife science and has worked professionally as a field biologist. *Id.* at 91. He has been trained and certified to conduct surveys for marbled murrelets, and he has participated in formal murrelet surveys for seven years. *Id.* at 93, 98, 102. He cares about murrelets and the forests they live in, *id.* at 124-125, 148, 149, and he co-founded an organization called Coast Range Forest Watch (“CRFW”), which surveys for murrelets in the Elliott State Forest as one of its primary activities. *Id.* at 92, 96, 154-155. Beeken has personally conducted about 60 or 70 surveys for marbled murrelets in the Elliott, *id.* at 109, and he plans to continue to be certified and to conduct murrelet surveys in the future. *Id.* at 98-102.

Beeken explained that CRFW surveyed for marbled murrelets in Benson Ridge in 2014. *Id.* at 110-11; *see also* Pls.’ Ex. 22 (survey forms); Pls.’ Ex. 24 (pictures and maps); Pls.’ Ex. 25 (communications). He has since returned to the area “several times to do bird watching, camping, and looking for marbled murrelets.” Tr. Vol. 1 at 139. Beeken described a trip in 2018, in which he camped a quarter of a mile from Defendants’ property and looked for murrelets at dawn. *Id.* at 142-143 (discussing trip); *id.* at 145-146 (describing the location); *see also* Pls.’ Ex. 38 (pictures of Beeken in the Benson Ridge parcel).

Beeken enjoys looking for murrelets on adjacent public lands. Tr. Vol. 1. at 142-143. Beeken plans to continue using and enjoying the forests, trees, and wildlife in and around Benson Ridge. *Id.* at 148-149. He plans to use the 4000 road “several times a year” and he has specific plans to return to the area in July of 2019 to camp

and look for murrelets. *Id.* at 144-145. Further, his work with CRFW will continue to involve regular murrelet surveys in the Elliott, including the area around Benson Ridge. *Id.* at 145-147.

Beeken believes the proposed clearcut will negatively impact his ability to observe murrelets in the Benson Ridge area, including on adjacent public lands. *Id.* at 152. He explained, “the less of their habitat that exists in an area, the less opportunity they have to come and nest.” *Id.* at 152. He also explained that fragmentation of the habitat “would have impacts on the forest around it when considered as part of a larger whole.” *Id.* at 152. When asked why “all of this matters,” Beeken answered “It matters because there’s just not very much forest left in the Coast Range around where I live that hasn’t been logged and replanted before. And this place is really special. And the marbled murrelet is going extinct, and it just is kind of upsetting to me that we’re still harvesting its habitat even when it’s so rare on the landscape.” *Id.* at 153.

The Court finds that Beeken would suffer a tangible, concrete injury if he were to experience diminished viewing abilities of the marbled murrelet. *Lujan* at 561. Plaintiffs have proved injury as to Beeken.

B. *Causation and Redressability*

As to causation and redressability, the Court finds Plaintiffs proved that the injury to Eatherington and Beeken described above is one “fairly traceable” to Defendants’ proposed logging operation and “not the result of the independent action of some third party not before the court.” See *Mendia v. Garcia*, 768 F.3d 1009, 1012

(9th Cir. 2014) (setting out standard to determine causation) (internal quotation marks omitted).

Plaintiffs' aesthetic and recreational injuries are connected to the harvest of Benson Ridge because if Defendants do not harvest the Benson Ridge parcel, Plaintiffs' injuries would not occur. The Court also finds that Plaintiffs proved a "substantial likelihood" that enjoining Defendants' proposed logging operation would redress any injury to Plaintiffs connected to marbled murrelets. *See Northwest Requirements Utilities v. F.E.R.C.*, 798 F.3d 796, 806 (9th Cir. 2015) ("Redressability requires "a substantial likelihood that the injury will be redressed by a favorable judicial decision."). Accordingly, Cascadia Wildlands has standing to bring claims on behalf of its members, Eatherington and Beeken. *See Friends of the Earth, Inc.*, 528 U.S. at 181 (setting forth factors for organizational standing).

III. Evidentiary Objections to Expert Testimony

Before the Court turns to its findings on the merits in this case, it must address, under the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993), Defendants' objections to the admissibility of Plaintiffs' expert witnesses' testimony. Defendants timely raised objections at trial to the reliability of Plaintiffs' experts, Tr. Vol. 1 at 195, 285; 211, 285, 286, and briefed those objections after trial. *See* Defs.' Post-Trial Briefing, ECF Nos. 138, 141. Defendants also raise objections that the Court finds go to evidentiary weight and credibility, rather than admissibility. Those objections will be addressed elsewhere in the Court's findings as they logically arise in the course of discussion of evidence.

A. *Daubert Objections to Admissibility of Evidence*

Post-trial, Defendants argue that Plaintiffs' experts, Richard Golightly, Jr., Ph.D. ("Golightly"), and Gary Falxa, Ph.D. ("Falxa"), are not qualified to testify about matters beyond "their own relevant research and published work." ECF No. 138 at 19; *see also id.* at 19 n.21 (asserting that Plaintiffs' experts' testimony went "far beyond their own actual experience, as well as their expertise and qualifications"); *id.* at 20 (asserting that Falxa is "completely unqualified to render opinions in interpreting the meaning of survey data collected by [Defendants' marbled murrelet surveyors], on the likelihood and locations of possible nesting in the Benson Ridge Tract, on potential 'edge effects,' and related issues,").

1. Standards

Federal Rule of Evidence 702 governs the admissibility of expert testimony. It provides that a witness "qualified by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if":

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

Under *Daubert* and its progeny, a trial court's inquiry into admissibility is a flexible one. *Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc.*, 738 F.3d 960, 969 (9th

Cir. 2013). Rule 702 requires trial courts to determine whether a witness is qualified to testify as an expert. Also, under this rule, “trial courts must assure that the expert testimony ‘both rests on a reliable foundation and is relevant to the task at hand.’” *Primiano v. Cook*, 598 F.3d 558, 564 (9th Cir. 2010) (quoting *Daubert*, 509 U.S. at 597). “Expert opinion testimony is relevant if the knowledge underlying it has a valid connection to the pertinent inquiry. And it is reliable if the knowledge underlying it has a reliable basis in the knowledge and experience of the relevant discipline.” *Id.* at 565 (citation and internal quotation marks omitted).¹

To determine reliability, trial courts must assess the expert’s reasoning or methodology, using as appropriate such criteria as (1) testability, (2) publication in peer reviewed literature, (3) known or potential error rate, and (4) general acceptance. *Daubert*, 509 U.S. at 592–94. This list of factors from *Daubert* “neither necessarily nor exclusively applies to all experts or every case.” *Kumho Tire*, 526 U.S. at 141. It “was meant to be helpful, not definitive,” *id.* at 151, and trial courts have discretion to decide *how* to test an expert’s reliability as well as *whether* the testimony is reliable, *id.* at 152, based on “the particular circumstances of the particular case[.]” *Id.* at 150.²

¹ The “helpfulness” or relevance requirement in Rule 702 has also been described as an issue of “fit.” *Daubert*, 509 U.S. at 591. As the Supreme Court explained in *Daubert*, “[f]it is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes.” *Id.* In short, “Rule 702’s ‘helpfulness standard requires a valid scientific connection to the pertinent inquiry as a precondition for admissibility.” *Id.* at 591–92.

² Other factors that courts have considered in determining reliability include (6) non judicial uses and experience with the process or technique; (7) its novelty

Under Rule 702, methods to qualify an expert witness are broad, and extend beyond “experience, training, or education” to include “knowledge” and “skill” as well. Fed. R. Evid. 702. Under the Federal Rules of Evidence, “an expert is permitted wide latitude to offer opinions, including those that are not based on firsthand knowledge or observation.” *Daubert*, 509 U.S. at 592.

That Golightly and Falxa may not have conducted research on each subject addressed in their testimony does not mean that they are not qualified as an expert on those subjects or that their opinions are unreliable.

2. Golightly

Golightly testified at trial concerning his background, education, experience, training, knowledge, and skill, among many other pertinent qualifications. Golightly, Tr. Vol. 1 at 229-250; Pls.’ Exs. 1, 2.

Golightly is a professor emeritus in the Department of Wildlife at Humboldt State University. He received his Ph.D. in Zoology³ at Arizona State University in

and relationship to other methods of analysis; (8) the qualifications and professional stature of the expert witness; (9) the types of error experienced, whether likely to favor the offering party or understate what he seeks to prove; (10) the existence of a body of professional literature appraising the process or technique; (11) whether the opinion grows from independent research or was developed for purposes of litigation; (12) whether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion; (13) whether the expert has adequately accounted for alternative explanations; (14) whether the expert has exercised the care appropriate to professional work; and (15) whether the field is known to reach reliable results in the area of the proposed testimony. *See* 3 FEDERAL EVIDENCE RULE 702 § 7:10 (Mueller & Kirkpatrick eds. 4th ed. 2021); Fed. R. Civ. P. 702 advisory committee’s note to 2000 amendments.

³ Zoology is the study of animals, including animals’ ecology, behavior, and physiology. Tr. 229:22, 230:10-12.

1981 and began working as a professor at Humboldt State the same year. For the past two decades, Golightly's research has focused on seabirds, and he began researching marbled murrelets specifically in 1995. His marbled murrelet research has included studies using telemetry to track murrelets and assess the characteristics of their inland flight, nesting locations, how they spend time at sea, reproduction, nest success, and nest predation; studies involving capturing murrelets at sea to investigate their diets and the role that ocean conditions and prey resources play in murrelet populations and reproduction; and studies testing aversive conditioning which mimic murrelet eggs to develop mechanisms to protect murrelet eggs from forest predators. This research has resulted in dozens of peer-reviewed publications, and Golightly has received two "Professional of the Year" awards from the Wildlife Society for his marbled murrelet research. Golightly has also authored or co-authored portions of technical reports on marbled murrelets for state and federal agencies and served as an expert marbled murrelet consultant for two wind projects and a Habitat Conservation Plan. Golightly has been a member of the Pacific Seabird Group for over twenty years and has been an active member of the group's marbled murrelet technical committee.

The Court finds that Golightly's education, research, and experience qualify him to testify as an expert on a wide range of topics related to marbled murrelet biology and ecology. The Court further finds Golightly a very compelling and credible witness and gives his testimony significant weight, with the exception of Golightly's testimony about predation by squirrels. Although Golightly's expert report notes that

squirrels are “suspected nest predators” for murrelets, Ex. 1 at 17, his opinions regarding increased predation risk focused on avian predators. *Id.* at 29-30. Accordingly, I have not considered Golightly’s testimony on squirrel predation.

3. Falxa

Falxa is a wildlife biologist who worked for the United States Fish and Wildlife Service (“FWS”) for over two decades before retiring in 2016. He received his Ph.D. in Zoology from the University of California at Davis in 1992 and joined the Service in 1994. Much of Falxa’s work has been with birds in the field of ornithology. He began working on marbled murrelet issues for FWS in 2000 when he transferred to the Arcata, California Field Office. There he assisted with the implementation of Pacific Lumber Company’s Habitat Conservation plan, which required the company to consult with FWS on timber activity that might impact marbled murrelets.

Falxa was the company’s primary contact at FWS and was tasked with identifying and minimizing those impacts. Then, in 2001, Falxa became involved in the Northwest Forest Plan marbled murrelet monitoring program, a multi-agency effort with researchers and statisticians from several state and federal agencies, as well as from universities in Oregon and Washington, aimed at tracking trends in marbled murrelet populations and nesting habitat within the planning area. Falxa started out as supervisor of his office’s at-sea survey crew. Then he joined the population monitoring team in 2002 and, by 2006, he became the lead for the entire program, which included the population monitoring program as well as a habitat monitoring program. During that time, Falxa continued to review proposed activities

on private and federal lands for potential impacts to murrelets. Falxa also represented FWS in evaluating forest stands occupied by marbled murrelets for their value as mitigation for an oil spill off the coast of Northern California, which killed many marbled murrelets.

Falxa authored or reviewed technical reports for federal and state agencies, which has required him to stay up to date on and analyze the body of literature concerning marbled murrelets and the impacts of land management on the species. He served as a technical editor on a report that provided a progress update on the first 20 years of the Northwest Forest Plan and co-authored the report's chapter on the marbled murrelet. Falxa also co-authored a FWS 5-year status review of marbled the murrelet under the ESA and a marbled murrelet chapter of a Forest Service science synthesis report. Further, he served as an independent peer reviewer of an Oregon Department of Fish and Wildlife biological status review of the marbled murrelet under the State's Endangered Species Act.

Falxa has been a member of the Pacific Seabird Group ("PSG") since 2002. He regularly attends and presents at its conferences. He is also a member of the PSG's marbled murrelet technical committee, and regularly attended their meetings to present on the Northwest Forest Plan marbled murrelet monitoring program while at FWS. In 2015, Falxa became active in the statistical subgroup of the working group tasked with revising the PSG Protocol. In 2016, he drafted the subgroup's report summarizing a 2016 re-analysis of the statistical basis of the PSG Protocol, performed

by Darryl MacKenzie, Ph.D., and making recommendations based on the results. In 2018, Falxa was asked to head the statistical subgroup.

It is evident that Falxa has significant knowledge and experience in marbled murrelet biology and ecology, both at sea and inland, built during his decades of service at FWS, as well as expertise on the statistical bases of the PSG Protocol.

Defendants assert that much of Falxa's testimony on key issues in this case was based on his "mere review and interpretation of scientific literature, not on any direct field experience, expertise, or qualifications studying murrelets in an inland setting." ECF No. 138 at 20.

The Federal Rules of Evidence do not require experts to build their expertise in an academic or research setting, and Falxa's regulatory work for the FWS involved spending a significant amount of time on the ground in potential and actual marbled murrelet habitat, conducting murrelet surveys, observing nest sites, and evaluating habitat quality, among other things. As discussed above, Falxa's roles also required him to stay current on the literature regarding marbled murrelets in inland settings and apply that literature to real-world management decisions.

The Court finds that Falxa is a highly compelling and credible witness and gives his testimony significant weight.

Defendants also raise *Daubert* objections regarding the reliability of the opinions Falxa rendered that relied on the "preliminary analysis" discussed in his supplemental expert report. *See* ECF No. 138 at 24; Tr. Vol. 3 at 625. Defendants contend that "Falxa did not disclose any of the data used in the preliminary analysis,

which prohibited Defendants (or the Court) from evaluating and verifying any of the methods or calculations that were used in conducting the analysis,” and that “all such testimony should be exclude or ignored.” *Id.*⁴

Defendants cite no authority for the proposition that an expert must disclose the underlying data used in a study that the expert, in turn, used to form their opinions. In any event, Falxa explained on the record that the dataset at issue was used in a separate, subsequent analysis for marbled murrelet surveys conducted in California, Oregon, and Washington between 1988 and 2014. Tr. Vol. 3 at 629; *see also* Ex. 59 (MacKenzie 2016 Report). The Court does not find a basis to exclude the evidence under *Daubert*.

B. *Other Objections*

Defendants urge the Court to find that Golightly and Falxa offered opinions on “ultimate issues” in this case and such testimony should be excluded. ECF No. 138 at 19-20.

Federal Rule of Evidence 702(a) requires that expert testimony “help the trier of fact to understand the evidence or to determine a fact in issue.” Federal Rule of Evidence 704(a) clarifies that “[a]n opinion is not objectionable just because it

⁴ Defendants also urge the Court to find inadmissible Golightly’s testimony on the risks of increased solar radiation and sun exposure, as well as “post-expert report research.” ECF No. 138 at 21-22. The Court declines to do so. Golightly’s expert report adequately disclosed opinions on impacts from increased solar radiation and sun exposure. Further, on review of the transcript, much of the post-expert report research testimony was elicited by Defendants on cross-examination. At any rate, the Court did not rely on those portions of testimony in reaching its ultimate conclusion.

embraces an ultimate issue.” “[I]f the terms used by an expert witness do not have a specialized meaning in law and do not represent an attempt to instruct the jury on the law, or how to apply the law to the facts of the case, the testimony is not an impermissible legal conclusion” *United States v. Diaz*, 876 F.3d 1194, 1199 (9th Cir. 2017).

Defendants do not argue that Plaintiffs’ experts offered opinions on ultimate issues of *law*. Defendants acknowledge that the ultimate issues are “factual.” *See* ECF No. 138 at 19 (noting that the ultimate issues were “identified and discussed above”); *id.* at 3 (asserting that “there are two ultimate issues for the Court to decide under the applicable legal framework” and that they are “factual issue[s]”). Because this was a bench trial with the Court sitting as factfinder, there was little, if any, danger that any expert witness would “attempt to instruct the [factfinder] on the law, or how to apply the law to the facts of the case.” Instead, Defendants appear to object to the form and scope of Plaintiffs’ experts’ testimony.

Lastly, Defendants ask the Court find that Falxa is biased, and thus exclude his entire testimony. ECF No. 138 at 22. Defendants also object to, as excludable, “any and all of Dr. Falxa’s testimony related to potential edge-effects of the proposed harvest,” because “Dr. Falxa has never conducted edge-effect research [and] barely mentioned edge-effects in his expert report.” *Id.* at 23. Defendants have not produced any basis on which the Court could find inadmissible Falxa’s entire testimony, much less his testimony related to “edge effects.” As a general rule, bias is not a permissible reason for the exclusion of expert testimony. “[E]vidence of bias goes toward the

credibility of a witness, not his competency to testify, and is an issue for the [factfinder].” *United States v. Abonce-Barrera*, 257 F.3d 959, 965 (9th Cir. 2001).

IV. The Marbled Murrelet

A. *Physical Characteristics and Behavior*

The marbled murrelet, in Latin, *Brachyramphus marmoratus*, is a seabird of the alcid family. ECF No. 120 at 3. Alcids are seabirds that feed on fish in the ocean and use their wings to fly under water as penguins do. Falxa, Tr. Vol. 2 at 589.

Marbled murrelets are notoriously difficult to detect due to their “high velocity flight, small size, cryptic plumage, and crepuscular behavior.” Murrelets are “cryptic” in that their feather patterns are camouflaged, and, when they go to their nest, they do so quietly and in the early twilight, making murrelets difficult to see. Golightly, Tr. Vol. 1 at 255. The murrelet is a “secretive nester,” and “nests individually.” Tr. Vol. 4 at 1004. Existence of the marbled murrelet was known to ornithologists by the late 1700s, but it took about 200 years to find the first nest in 1974 in California. Golightly, Tr. Vol. 1 at 253; ECF No. 120 at 5.

Marbled murrelets do not nest every year. Marine conditions and offshore food availability and distribution influence murrelet nesting distribution and patterns. In Oregon, the murrelet nesting season is considered to run from April 1 to September 15. ECF No. 120 at 5.

With few exceptions, murrelets fly inland to nest in mature and old growth coniferous forests throughout most of their range. ECF No. 120 at 3; Pls.’ Ex. 11 at 6. Murrelets do not build nests, but instead lay a single egg on thick, flat tree branches

with natural depressions and a blanket of moss. ECF No. 120 at 3; Pls.' Ex. 11 at 6; Golightly, Tr. Vol. 1 at 299.

Murrelet occupancy is most related to availability of low elevation, unfragmented, old-growth forests close to highly productive marine areas. Fragmentation and isolation of old growth forests have an adverse effect on both murrelet occupancy and abundance. Golightly, Tr. Vol. 2, 404-406

Murrelets nest very high in trees and a single egg sitting up on top of a large branch cannot easily be seen from the ground. Golightly Tr. Vol. 1 at 255. Generally, only very large trees contain such platforms, and murrelets are thus closely associated with old growth and other mature forests that contain suitable platforms for nesting. *Id.*

During the nesting season, marbled murrelet feathers are cryptically colored in browns and whites to blend into the forest environment making them difficult to spot while inland. The female lays one egg and the male and female incubate the egg in shifts while the other bird feeds in the ocean. The egg is usually incubated for 30 days. Typically, the male and female switch incubation shifts at dawn or dusk to avoid detection by predators.

Although it has not been documented or found to occur in Washington, Oregon, or California, murrelets have been documented nesting on the ground in Alaska, especially near or along cliffs. *Id.*

B. *Endangered Status and Primary Threats*

1. Endangered Status

FWS listed the marbled murrelet as a threatened species under the ESA in California, Oregon, and Washington in 1992. One of the greatest threats to murrelets is forest fragmentation.

At the time of listing, the U.S. Fish and Wildlife Service stated that the “marbled murrelet is threatened by the loss and modification of nesting habitat (older forests) primarily due to commercial timber harvesting” and because of “mortality associated with current gillnet fishing operation off the Washington Coast and the effects of oil spills.” 57 Fed. Reg. 45,328 (Oct. 1, 1992). Further, that “[t]he principal factor affecting the marbled murrelet in the three-state area, and the main cause of population decline has been the loss of older forests and associated nest sites.” 57 Fed. Reg. at 45,330.

2. Primary Threat: Forest Fragmentation

The vast and rich old-growth forests that once blanketed the Pacific Northwest are now almost entirely gone. Ex. 131 (FWS 2009 Report) at 32 (noting that at least 82 percent of the mature forests that once existed in Western Oregon and Washington have been logged). At trial, many similar reports based on data throughout the years evidenced consensus in the scientific community concerning the detriment to the murrelet caused by loss of old growth forests.

In a 2018 status review of the marbled murrelet, the Oregon Department of Fish and Wildlife (“ODFW”) compiled data from “documented and verifiable scientific

information and other best available data on the Marbled Murrelet.” Pls.’ Ex. 12 at 3. In its report, ODFW reviewed many aspects of the species’ biology, life history, population trends and demographics, marine and terrestrial habitat conditions, threats, and the adequacy of state and federal programs and regulations. The Court finds this report, admitted at trial in conjunction with Golightly’s expert testimony, to be helpful in its determinations.

In general, marbled murrelet nest sites are negatively associated with increasing amounts of forest fragmentation. Golightly, Tr. Vol. 2 at 373-374. In southern Oregon, researchers found that murrelets were most abundant in unfragmented old-growth forest patches located within mature second-growth forest. Pls.’ Ex. 12 at 30. Further, that areas occupied by murrelets had less fragmented and isolated old-growth forest compared to unoccupied areas. *Id.*

Much of the murrelet’s older forest nesting habitat in Oregon was removed by wildfire and industrial logging in the last century.

Today, marbled murrelets persist in highly fragmented forest remnants and mostly on public lands. Pls.’ Ex. 12 at 85. Identified public lands where murrelets persist include the Siuslaw and Rogue River-Siskiyou National Forests; forests owned by the BLM; and the state-owned and managed Tillamook, Clatsop, and Elliott State Forests. *Id.* On nonfederal lands in Oregon between 1993 and 2012, 98% of loss to murrelet habitat was attributable to timber harvest, most of which occurred in the Coast Range. *Id.*

The murrelet population in Washington, Oregon, and California “continues to be subject to a broad range of threats such as nesting habitat loss, habitat fragmentation, and predation.” Golightly, Tr. Vol 2 at 398-99; Pls.’ Ex. 17. Defendants’ expert, Dr. John Marzluff agreed that “maintaining existing suitable murrelet nesting habitat is absolutely critical to prevent further species decline.” Tr. Vol. 5 at 1159; *see also id.* at 1122 (affirming that murrelets are “hypersensitive to forest loss[.]”).

FWS and the United States Forest Service (“USFS”) estimated in a 2018 report that 59,200 acres of higher suitability murrelet habitat was removed due to timber harvest on non-federal lands in Oregon from 1993 to 2012, as well as 19,400 acres from federal lands in Oregon. Defs.’ Exs. 180, 184.

V. Benson Ridge

A. *Property Location and Sale Background*

The Benson Ridge property is located in portions of Sections 12 and 13, Township 23 South, Range 12 West, W.M., Coos County, Oregon. It consists of Tax Lot 600 in Section 12 and 100 in Section 13. The Benson Ridge Tract is approximately 355 acres total and is located roughly five to six miles east and slightly north of the city of Lakeside in Coos County, Oregon. ECF No. 120 at 13. Defendants note that FWS has not designated the Benson Ridge Tract as critical habitat for the marbled murrelet. *Id.*

The Elliott State Forest is approximately 94,000 acres. About half of the Elliott State Forest is 80 years of age or older and potentially suitable for marbled murrelet

nesting. Defendants' Ex. 115. Most of the older forests in the Elliott regenerated naturally following the Coos Bay Fire of 1868 and are approximately 90-150 years old, though some remnant scattered older trees (more than 150 years old) exist that survived the fire. Defendants completed their purchase and acquired title to the entire Benson Ridge Tract from the State of Oregon on June 4, 2014. Plaintiffs served their initial pre-suit notice letter on Defendants on June 3, 2014.

B. *Benson Snake Logging Operation*

In 2016, Defendants submitted a notification to the Oregon Department of Forestry, outlining their intent to clearcut 49 acres in the southern portion of the Benson Ridge parcel. ECF No. 120 at 22-23; *see Appx. Fig. 1* (Defendants' Ex. 104). (maps of the parcel and proposed logging unit). The 49 acres of the Benson Snake logging operation include mature forest, approximately 130 years of age, with the exception of leave trees and stream buffers required by the Oregon Forest Practices Act.

VI. The PSG Protocol

The Parties stipulated to a number of key portions of text compiled by the Pacific Seabird Group ("PSG") in its publication titled "Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research" (referred to as the "PSG Protocol" or "Evans Mack et al. 2003"). *See* ECF No. 120 at 5-13 (stipulations); Pls.' Ex. 11 (the PSG Protocol). Those stipulations, testimony from experts at trial, and other relevant portions of the PSG Protocol are as follows:

A. *PSG Protocol Background and Objectives*

The PSG is a society of scientists, seabird researchers, land managers and other seabird enthusiasts “dedicated to the study and conservation of seabirds and their environment,” including marbled murrelets. The PSG developed a Protocol “designed to provide researchers and land managers with standardized techniques to detect murrelets in forests.” *Id.* at 6.

The PSG stated the objectives of its Protocol as follows:

“The objectives of this Protocol are to provide scientifically-based methods for biologists, managers, and researchers to: (1) document the occurrence or probable absence of murrelets in a forest at the time of surveys; (2) interpret the biological significance of behaviors observed during surveys to evaluate how murrelets are using forests (i.e., classify sites as ‘presence’, ‘occupied’, or ‘probable absence’); (3) identify the geographic distribution of the marbled murrelet; and (4) provide consistency in surveys among land managers. This Protocol is based on analyses of 10 years of survey data to provide a statistically reliable approach to classifying surveyed areas.”

Id. at 7. While applicable in Washington, Oregon, and California, the PSG Protocol may require modification for use in British Columbia and Alaska. *Id.* at 2.

B. *Identifying Potential Marbled Murrelet Habitat*

The PSG Protocol explains that marbled murrelet nests have been found primarily in mature and old-growth habitat and, in a few cases in Oregon, in forests of 60-80 years that have trees with dwarf mistletoe or other deformations or structures that provide a nest platform. Douglas-fir, coast redwood, western hemlock, western red cedar, yellow cedar, mountain hemlock, and Sitka spruce have been found by researchers to predominate nest stands. *Id.* at 7.

Researchers have also found a tree nest in a large deciduous red alder and nests on cliffs. Therefore, the PSG Protocol states “potential habitat” that should be surveyed for murrelets is defined as (1) mature forests (with or without an old-growth component) and old-growth coniferous forests; and (2) younger coniferous forests that have platforms. *Id.*

A “platform” is a relatively flat surface at least 4 inches in diameter and in most cases, 33 feet high in the “live crown of a coniferous tree.” *Id.* Platforms can be created by a wide bare branch, moss or lichen covering a branch, mistletoe, witches’ brooms, other deformities, or structures such as squirrel nests. *Id.* Researchers have found that the presence of platforms appears to be the most important forest stand characteristic for predicting murrelet presence in an area.

Platform presence is more important than tree size, which alone is not a good indicator of platform abundance. Therefore, any forested area with a residual tree component, small patches of residual trees, or one or more platforms should be considered “potential habitat” for murrelet nesting. *Id.* at 8. Continuous potential habitat contains no gaps in suitable forest cover wider than 100 meters (328 feet). *Id.*

C. ***Defining Survey Areas and Survey Sites***

According to the PSG Protocol, the “**minimum** area surveyed should be the potential habitat that falls within the proposed project area, and within one-quarter mile (402 meters) of the project area boundary *that is contiguous* with the project area.” *Id.* at 11 (bold and italics in original).

The purpose of the one-quarter mile guide is to increase the likelihood that a “continuous block” of potential habitat is surveyed, not just that portion that lies within the project boundary.

When a project is planned in a large expanse of potential habitat, surveying the entire continuous block will allow for a more thorough evaluation of the potential impacts to portions of the habitat that are greater than one-quarter mile from the project boundary. For example, in many situations, the potential habitat occurs in a long, linear configuration. When the project area is at the edge of this large block, even a one-quarter mile boundary might not include the entire stand of potential habitat. *Id.*

In accordance with those principles, a “survey area” thus includes all suitable murrelet nesting habitat in the proposed project area as well as any suitable murrelet nesting habitat that is contiguous to the proposed project area and within one-quarter mile of the project area boundary. ECF No. 120 at 6.

A “survey site” is the unit by which survey visits are designed and carried out, and the unit to which the requisite number of survey visits apply. Pls.’ Ex. 11 at 12. The PSG Protocol recommends limiting the size of a survey site to 61 hectares (150 acres). *Id.* The Protocol admonishes that the “survey site” boundary should not be confused with the management project or survey area boundaries. Typically, survey areas are larger than 61 hectares (50 acres) and should be divided into smaller “sites.”

If the entire survey area is small—less than 61 hectares (150 acres), the survey area is essentially “encompassed” by the survey site, and, in that case, the terms

“survey site” and “survey area” are interchangeable and the Protocol applies equally.

Id. at 12.

The recommended number of stations within each survey site varies to provide adequate coverage by observers across the site. The Protocol states that “[a] general rule of thumb is that your stations should be located **throughout the site.**” *Id.* at 15 (bold in original). The “[P]rotocol recommends that 200 meters be set as the maximum detection distance for audio-visual surveys, and thus defines station effective area as a 200-meter radius circle centered on the survey station [(30 acres)].” *Id.* at 14. However, a higher density of stations may be required based on the area, topography, and vegetation of the site. Stations are distributed throughout each survey site and are located so that the view to the sky is unobstructed (e.g., forest clearings, adjacent to streams). The Protocol also recommends that field visits identifying the most suitable murrelet nesting habitat be factored into station placement.

The PSG Protocol directs that each year, stations are visited in the breeding season between May 1 and August 5 to obtain 5 to 9 replicate visits within each survey site to assess occupancy status. Beeken, Tr. Vol. 1 at 105. If a site contains only a single station, then this station must be visited 5 to 9 times to assess site occupancy. If a site contains between 2 and 5 stations, then stations will need to be revisited over time to obtain the minimum number of visits to determine occupancy status at the site. If a site contains more than 9 stations, then each station need only be visited once. However, two stations visited on the same day only represent a single visit to the site. If no presence detections are made within the first 5 visits, then the

survey ceases for the year. Visits should be spaced to occur every 6 to 30 days to ensure that survey occasions occur during the most active periods.

D. *Behaviors Indicating “Probable Absence,” “Presence,” and “Occupied,” Status*

Because marbled murrelet nests are extremely difficult to find, the PSG Protocol takes a different approach to identifying which forest stands the murrelet occupies, based on observation and detection. Golightly, Tr. Vol. 1 at 265. A detection is the “sighting or hearing of one or more birds acting in a similar manner and initially occurring at the same time.” Pls.’ Ex. 11 at 8. The PSG Protocol study design relies upon observed murrelet behaviors to “lead to classifications of sites and, ultimately, survey areas.” *Id.* at 27; *see also* Beeken, Tr. Vol. 1 at 105 (explaining that the unit of measure for surveys under the PSG Protocol is the visual or audio detection of a single bird or multiple birds). According to the PSG Protocol:

1. Probable Absence

The term “probable absence” indicates a site of potential habitat where no murrelets were detected after the requisite number of surveys.

2. Presence

The term “presence” indicates a site of potential habitat where murrelets were detected, but subcanopy behaviors were not observed. Additional survey effort is required at areas with birds present to determine whether or not a site is occupied. Presence sites include those with: non-stationary audio detections; birds flying in

small- or large-radius circles above the canopy; above-canopy dives (that do not end below the canopy); or other above-canopy flight.

3. Occupied

If a single visual detection of subcanopy flight is observed at any one survey station, then the entire survey area, including all survey sites within the survey area, is classified as an “occupied site.” ECF No. 120 at 9; *see also* Golightly, Tr. Vol 1. at 266 (explaining that the primary behavior the PSG Protocol relies on to determine whether a particular area is considered “occupied” is “flying beneath the canopy” and that only those birds that “fly below the canopy are indicative of nesting or nesting-related behaviors”. *Id.*

Other behaviors can be observed that indicate whether a site is occupied, including the following subcanopy behaviors or conditions: discovery of an active nest; a recent nest as evidenced by a fecal ring or eggshell fragments on structures in the forest canopy; an old nest cup and landing pad; discovery of a downy chick, an egg, or eggshell fragments on the forest floor; birds flying below, through, into, or out of the forest canopy within or adjacent to a site of potential habitat; perching, landing, or attempting to land on branches; and birds calling from a stationary location within the site. ECF No. 120 at 9.

Flight behavior includes birds flying over or along roads, young stands, or recently-harvested areas adjacent to potential habitat. However, only the adjacent site of potential habitat, not the non-habitat, should be classified as occupied.

If birds are observed along a road where there is more than one site that the birds could be using, additional surveys may be required in some cases to determine which is occupied, if these sites are not part of the same survey area. Some subcanopy flights, such as low-flying birds observed in steep canyons or crossing ridge lines in non-habitat areas, are not associated with the site of interest and should not be considered occupied behaviors.

E. *Significance of Marbled Murrelet Subcanopy Flight*

Murrelet subcanopy behavior is a significant indication that a site is occupied because, for the murrelet, flight is a “costly” behavior. Golightly, Tr. Vol. 1 at 270. Because of the marbled murrelet’s physical composition—its large body mass in comparison to its small wings—their flight machinery is not built for dropping into holes or bouncing around like a robin might. *Id.* at 268-269. Nor is the murrelet likely to flit about underneath the forest canopy from branch to branch. *Id.* at 271. The murrelet’s physical activities are compromised between being pursuit-diving-predators in the ocean for sustenance and converting to flight in the air—the latter of which is not easy for the bird and comes at a substantial cost to its energy *Id.* at 268.

With that in mind, marbled murrelets’ flight patterns are quick and structured to minimize the cost of flying. *Id.* The conclusion researchers draw from this is, for the murrelet, taking on the cost of flying inland represents that there is a high value benefit for the bird: nesting. *Id.* at 270. Murrelets live at sea. They do not live in or roost in trees: they nest in them. *Id.* Thus, based on the physical constraints on the

birds, subcanopy flight strongly indicates that the stand is likely important for the birds' reproduction. *Id.* at 271.

If a block of continuous potential habitat is divided into three contiguous survey sites, and one of those three sites yields subcanopy detections, the entire survey area is considered occupied, not just that one site, because all the sites form one large piece of continuous habitat. ECF No. 120 at 12; Pls.' Ex. 11 at 28.

Defendants called Dr. Falk Huettmann ("Huettmann"), Ph.D., to provide his opinions about marbled murrelets. Huettmann generally opined that subcanopy detections are not strong evidence of nesting. Tr. Vol. 4 at 1002-1004, 1009-1010, and he testified, based on his research in British Columbia, that marbled murrelets are capable of living in small patches and in fragmented landscapes. *Id.* at 1005-1006.

After carefully reviewing Huettmann's education, research, and other experience, the Court finds that he is qualified to testify as an expert about murrelets in British Columbia. Similarly, his British Columbia research and its results are reliable under *Daubert* and Rule 702, and I give great weight to his testimony about the robustness of marbled murrelets as a species and the range of the species' ecological niche. But Huettman's opinions applying that research to this case are given less weight as are his critiques of the PSG Protocol, compared to testimony on similar issues by Plaintiffs' experts. The PSG Protocol itself recognizes that British Columbia may present materially different circumstances from the lower 48 states, noting that "[w]hile applicable in Washington, Oregon, and California," the PSG Protocol's methods "may require modification for use in British Columbia." Plfs.' Ex.

11 at 7.

E. *Importance of Continuous Habitat*

The parties have stipulated to the following statements found in the PSG Protocol. ECF No. 120 at 12-13; Pls.' Ex. 11.

The Protocol explains that the hypothesis that continuous habitat is important is based on the following observations on the nesting behavior of murrelets and alcids in general:

“Although Marbled Murrelets nest solitarily, more than one pair of birds are usually found in a single, continuous forest (Nelson and Peck 1995). The interaction of murrelets in a single stand seems important for social and breeding purposes.

“As two or more pairs of murrelets might nest asynchronously in a stand (or perhaps even renest), murrelets could be nesting at different times - and therefore different places - in the same stand in the same year.

“Over several years, murrelets might use more than one nest tree or use different parts of a stand for nesting (Nelson 1997). Murrelets exhibit high nest site fidelity, with some stands supporting 20+ years of murrelet use (Divoky and Horton 1995).

“A few nest trees have been used in consecutive years (Singer et al. 1995, Nelson 1997, Manley 1999); however, most are not, suggesting that breeding birds may move elsewhere within a stand in successive years or may not nest every year.”

Pls.' Ex. 11 at 11.

F. *Occupied Stands Treated as Occupied Indefinitely*

The detection of occupied behaviors in forests implies that the area serves as a breeding location for murrelets. ECF No. 120 at 13. The Protocol does not contain data from which to form a recommendation for how long after surveys are completed that the results of those surveys remain valid. *Id.* Murrelet surveys reflect the

breeding status of sites for the time period during which surveys were conducted. As a breeding area, murrelets may nest there every year, in alternate years, or once in several years. *Id.* The extent of use, re-use, or abandonment of nest areas, or establishment of new areas, is unknown.” *Id.* (quoting PSG Protocol, Pls.’ Ex. 11 at 28). The Protocol recommends that “occupied stands should be treated as occupied indefinitely.” *Id.*

G. *Methodology*

The PSG Protocol is a method of combined observational tools and statistical analysis, whereby it seeks to follow the “frequently-used convention of establishing a target of 95% confidence of survey outcome.” ECF No. 120 at 10. If a single visual detection of subcanopy flight is observed at any one survey station, then the entire survey area, including all survey sites within the survey area, is classified as an “occupied site” according to the PSG Protocol. *Id.* The Protocol states:

Occupied sites include nest sites, but an occupied site also can be used for purposes other than nesting that are essential for the complete life history of the bird. For example, courtship displays in other alcids can take place near, but not at, the breeding site. Murrelets have been observed landing in unsuitable trees in unsuitable habitat contiguous with or near suitable habitat in Oregon and British Columbia (S. K. Nelson, pers. comm.). These landings generally involve more than one murrelet and the birds remain standing in these young trees for a period of time. Thus, the places where birds engage in courtship or other breeding-related activities might not be in the exact same area or stand as a nest, but these areas are just as important as nesting sites for the birds’ life history.

Pls.’ Ex. 11 at 27.

H. *Alternatives to the PSG Protocol*

Alternative methods to track marbled murrelets include telemetry, which

requires a remote device, mounted to a murrelet's back with a suture, which transmits location data to the researcher. Golightly, Tr. Vol. 1 at 233-235. To effectively find nests in a specific forest stand would require birds to be captured at sea with no guarantee that any of those birds will fly inland to that forest stand. And, to do so would require a capturing thousands of murrelets and would cost "millions" of dollars. *Id.* at 256-260.

A second known technique is called "tree climbing—" which is exactly as it sounds: a person approved by FWS attempts to climb every potentially suitable tree in a proposed forest stand to look for nests that have been previously used. *Id.* at 261, 263. A person cannot climb during nesting season without risking "flushing a bird off a nest," so after the season, the climber must look for a little divot on a limb, possibly with some fecal matter in it. *Id.* at 261. It takes a very trained tree climber to spot that little divot where the egg may have been. *Id.* at 261-262. Further, after nesting season, climbers would have a short window to look for impressions or fecal matter before the first rains, which would wash away signs of nesting. *Id.* at 262-263.

I. *The PSG Protocol is a Well-Accepted and Reliable Method for Surveying Marbled Murrelets*

Defendants offered the testimony of Dr. Marvin Dale Strickland ("Strickland"), Ph.D., to testify about his opinion on the PSG Protocol from a wildlife study design perspective, critiquing several aspects of the Protocol and its application in marbled murrelet surveys. Tr. Vol. 4 at 898-909, 911-916.

The Court finds Strickland qualified and gives weight to his general testimony about wildlife study design and the limitations of observational studies. However, the Court finds that Strickland has little experience with marbled murrelets or the PSG Protocol. *See* Tr. Vol. 4 at 897, 926, 927 (acknowledging at trial that he has not worked on anything related to marbled murrelets before this lawsuit). Accordingly, the Court gives less weight to Strickland's critiques of the PSG Protocol and CRFW surveys and, particularly, aspects of those critiques that turn on issues related to marbled murrelet ecology, biology, and behavior.

The Court finds that the PSG Protocol has received "consensus" among land managers, timber companies, scientists, researchers, and governmental entities as an effective way to identify which forest stands are "occupied" by the murrelet. Golightly, Tr. Vol. 1 at 252, 265 (Plaintiffs' expert); Strickland ("Strickland"), Tr. Vol. 4 at 945 (Defendants' expert stating that the PSG Protocol provides a "reasonable" and "appropriate" method for collecting data on murrelets); *see also Nw. Forest Res. Council v. Pilchuck Audubon Soc'y*, 97 F.3d 1161, 1167 (9th Cir. 1996) (the PSG Protocol is "the generally accepted scientific methodology employed to determine whether marbled murrelets are located in, or making use of, a particular inland forested site for nesting purposes.").

The evidence at trial showed that the PSG Protocol continues to be widely used and accepted, including by private industry. Defendants' surveyors, Western EcoSystems Technology, Inc. ("WEST"), used the PSG Protocol to evaluate whether murrelets were nesting in Benson Ridge. Tr. Vol. 3 at 868-869; ECF No. 99 at 36-37.

Defendants' witness, Joel Thompson of WEST and Plaintiffs' witness, Clark McMahon of CRFW both used the PSG Protocol in their survey work for private logging companies. Tr. Vol. 1 at 183-184; Vol. 3 at 870-871. Another surveyor for WEST described in a sworn declaration that the PSG Protocol is the best and most accepted method for conducting inland surveys for marbled murrelets, and the only method he has ever used. ECF No. 99 at 45-46 (declaration of Troy Rintz).

The PSG Protocol has been formally adopted by several state and federal wildlife agencies to ensure compliance with the ESA's "take" prohibition. Pls.' Ex. 80 (Oregon state operational policies adopting the PSG Protocol and explaining, "the purpose of this policy is to reduce the risk of liability for unpermitted 'take' of marbled murrelets."); Pls.' Ex. 79 (Washington administrative rules mandating use of PSG Protocol for murrelet surveys); Pls.' Ex. 81 (USFS and Bureau of Land Management binding forest plan rules).

Falxa testified that FWS relies on PSG Protocol surveys and recommends PSG Protocol surveys to landowners who need to assess whether their properties are occupied by murrelets. Tr. Vol. 2 at 561-562, 597-598; *see also* Pls.' Ex. 18 at 11 (2016 publication by FWS, relying on the PSG Protocol and describing the Protocol (Evans Mack et al. 2003) as "the best scientific data available"). Falxa also testified that California state agencies use and rely on the PSG Protocol to conduct surveys and define occupied habitat. Tr. Vol. 2. at 595-597. When asked whether any state or federal agencies use any other method to determine murrelet occupancy in a particular forest stand, Falxa replied, "No. None that I'm aware of." *Id.* at 602.

Accordingly, the Court finds that the PSG Protocol is an effective, appropriate, and reliable method for surveying and classifying marbled murrelet behavior and determining whether forest stands are occupied by the marbled murrelet.

VII. Benson Ridge Survey Efforts

The Parties have stipulated that, to become certified murrelet surveyors, CRFW's surveyors have gone through the same formal training and certification as Defendants' surveyors with WEST. ECF No. 120 at 16.

A. *Survey Area*

The area of survey eventually became referred to by Defendants' surveyors as the Benson South Survey Area and the area is identified in Defendants' Exhibit 104 with three divided survey sites highlighted in blue, yellow, and green. *See Appx. Fig. 1.*

The parties have stipulated that the Benson South Survey Area is 268.7 acres and is a contiguous block of suitable marbled murrelet nesting habitat. ECF No. 120 at 21. Defendants do not contest that the proposed harvest area contains suitable marbled murrelet habitat. ECF No. 94 at 20 ("there is a plethora of suitable habitat in the vicinity of the Benson Snake harvest unit that is suitable for marbled murrelet nesting.").

WEST named the three survey sites within the Benson South Survey Area: Benson West (25.3 acres and highlighted in blue), Benson Central (111.8 acres and highlighted in yellow), and Benson Southeast (131.6 acres and highlighted in green). ECF No. 120; Defs.' Ex. 104 (showing color-coded map area).

Plaintiffs' expert witnesses have confirmed that the entire Benson South Survey Area is contiguous suitable marbled murrelet nesting habitat. Tr. Vol. 2 at 331; Tr. Vol 3 at 633-635 (describing suitability); Tr. Vol 2 at 337-338, 340; Tr. Vol. 3 at 635-636 (describing contiguity). The Court finds that testimony reliable and credible.

B. *2014 Survey by Coastal Range Forest Watch*

1. Preliminary Information

Primarily using the PSG Protocol, CRFW conducts survey programs for the marbled murrelet. Beeken, Tr. Vol. 1 at 95, McMahon, Tr. Vol. 1 at 182-183. CRFW has conducted between 350 and 400 such surveys. *Id.* at 96. Beeken is a survey coordinator for CRFW and testified that in the regular course of business, CRFW retains records related to its survey efforts and routinely shares survey results with landowners, land management agencies, governmental entities, and university researchers. *Id.* at 96-97.

In March 2014, CRFW visited the Benson Ridge Tract to perform preliminary scouting for potential survey sites, which involved hiking through the area. Beeken, Tr. Vol. 1 at 111. With Beeken on at least one of the scouting trips was McMahon. *Id.* At all relevant times, both Beeken and McMahon, and other CRFW survey volunteers were certified through specialized training from Sean McAlister of Mad River Biologists to conduct marbled murrelet surveys in accordance with the PSG Protocol. Beeken, Tr. Vol. 1 at 100-103; Pls.' Ex. 26; ECF No. 120 at 22.

The preliminary scouting for potential survey stations involved searching for

habitat known to be suitable for murrelets, including large trees with large branches in places that have a “gap in the canopy” where the sky creates a contrasting backdrop to view the murrelet’s silhouette. Beeken, Tr. Vol. 1 at 107; *see also* Pls.’ Ex. 11 at 9 (PSG Protocol stating that an “on the ground evaluation of the habitat” “is a critical first step” to identify “where murrelet surveys should be conducted.”)

Between July and August, CRFW conducted at least thirteen surveys in what WEST later described as the Benson Ridge South Survey Area. ECF No. 120 at 22. CRFW surveyors wrote the pertinent details observed during each survey on “Marbled Murrelet Forest Survey Form” used in the industry for recording detections of marbled murrelets. McMahon, Tr. Vol. 1 at 192; Pls.’ Ex. 11 at 65-77 (PSG Protocol providing instructions for data forms and form completion); Pls.’ Ex. 22 (filled out forms used by CRFW surveyors).

2. 2014 Survey Results

Out of the thirteen surveys, CRFW surveyors recorded three total detections. The detections included two observations which, according to the PSG Protocol, indicated marbled murrelet “presence” and one observation indicating marbled murrelets “occupied” the survey area. ECF No. 120 at 22.

At trial, Defendants challenged whether the detection was reliably “sub-canopy.” Strickland, Tr. Vol. 4 at 945.

Specifically, on May 11, 2014, at 6:55 AM, CRFW surveyor, Brittany Osland, recorded a marbled murrelet audio detection involving multiple “keer calls.” McMahon, Tr. Vol. 1 at 199-200; Pls.’ Ex. 22 at 9-10. According to the Protocol, this

would mean that marbled murrelets were “present.” Defendants do not challenge this detection.

On May 24, 2014, McMahon was volunteering with CRFW at Benson Ridge near what on WEST’s maps is survey station “BR8.” *See Appx. Fig. 3* (Trial Ex. 32 at 12). Survey Station BR8 is contained within the Benson Central survey site and is inside the proposed logging unit. ECF 12. at 22. There, McMahon conducted a survey and recorded two marbled murrelet detections. McMahon, Tr. Vol 1 at 201-202. The first detection McMahon described as a visual detection of a “flyover,” entailing a single bird flying silently at 1.4 canopy height—an “above-canopy” detection. *Id.* at 202-203. Defendants do not challenge this detection.

The second detection occurred at the same station at 6:16 AM and McMahon described two birds flying silently at 0.8 canopy height—a “below canopy” detection. *Id.* at 203; *see also* Pls.’ Ex. 22 at 19-20. Defendants challenge the veracity of the detection. ECF No. 120 at 22.

Accompanying the survey form, McMahon included an audio recording of his observations during the survey which he made contemporaneously at key moments describing the weather conditions, canopy closure, and other animal sightings and sounds. Pls.’ Exs. 23B, 23C. McMahon also made audio recorded notes the moment he observed the first marbled murrelet, stating on the recording: “Single bird silent, straight-line flight, 1.4 from the North-Northeast to West-Northwest. Closest distances fifteen meters.” Tr. Vol. 1 at 208; Pls.’ Ex. 23E.

When McMahon made his second marbled murrelet detection, he also recorded

his observations: “Two birds silent. North-Northwest. Closest distance 70 meters. 0.8 flying straight West, last seen West-Northwest.” McMahon, Tr. Vol. 1 at 209; Pls.’ Ex. 23K. McMahon filled out the standard survey from recording his observations while they were fresh in his memory. McMahon, Tr. Vol. 1 at 211.

The Court finds that, in sum, the CRFW survey resulted in two observations involving above-canopy behavior and one observation involving below canopy behavior in what is now known as the Benson South Survey Area.

The Court finds that Defendants challenge to the veracity of CRFWs sub-canopy detection near BR8 is not based on the surveyor’s honesty, credibility, expertise, training, or skill. Rather, Defendants dispute the sub-canopy detection on the basis that the PSG Protocol’s itself provides a “weak” methodology for determining whether behavior is above- or sub-canopy. Strickland, Tr. Vol. 4 at 945.

Defendants’ argument is not credible. Their own hired surveyors followed the same observational Protocol concerning identifying above- or sub- canopy height and were trained by the same industry expert. Defendants’ own experts testified as to the appropriateness and efficacy of the PSG Protocol, noted above.

Accordingly, the Court finds reliable and credible the evidence and testimony concerning McMahon’s sub-canopy detection in the Benson Central survey site.

C. *2015 Survey by Western EcoSystems Technology*

1. Preliminary Information

After receiving Plaintiffs’ notice letter, Defendants engaged WEST to evaluate whether, and to what extent, marbled murrelets utilize the Benson Ridge Tract for

nesting. ECF No. 120 at 16.

Between 2015 and 2016, WEST conducted two years of marbled murrelet surveys in the Benson Ridge Tract and adjacent suitable habitat within one-quarter mile outside of the tract, (on lands owned by the State of Oregon consisting of the Elliott State Forest). *Id.* WEST's surveys were conducted using the PSG Protocol. *Id.*

WEST's surveyors all received their training and certification in marbled murrelet surveying under the PSG Protocol from Sean McAllister, Mad River Biologists. *Id.*

The portions of the Benson Ridge Tract surveyed by WEST predominantly consist of trees ranging from approximately 127-138 years old, some of which have mossy branch platforms that marbled murrelets could attempt to use for nesting. Roughly one-third of the Tract consists of 37-42 year-old timber and was not surveyed by WEST after determining it was not suitable for murrelet nesting. This unsuitable habitat is generally located in the central portion of the Benson Ridge Tract and separates the suitable habitat in the northern portion of the parcel from the suitable habitat in the southern portion of the parcel. Appx. Fig. 2 (Defs.' Ex. 105).

2. Designating the Survey Area

As mentioned, WEST designated a block of contiguous habitat in the southern portion of the tract as the "Benson South Survey Area," which is 268.7 acres for survey purposes is subdivided into three tracts. According to WEST, the Benson South Survey Area "was defined for our efforts as contiguous blocks of mature and potentially suitable murrelet habitat[.]" ECF No. 120 at 16.

The Benson West Survey Site and the Benson Central Survey Site within the survey area border one another along a ridge where the blue and yellow shading meet, shown in Exhibit 102 illustrating that there is no gap in forest cover greater than 100 meters along that ridge where the two survey sites meet. ECF No. 120 at 17-18.

WEST hired subcontractors to physically conduct murrelet surveys in accordance with the PSG's surveying Protocol. WEST's subcontractors received their training and certification in marbled murrelet surveying from Sean McAllister, Mad River Biologists. *Id.*

3. 2015 Survey Results

The 2015 WEST survey efforts in the Benson South Survey Area documented 8 total murrelet audio and above-canopy detections but no sub-canopy detections. ECF No. 120 at 19; Defs.' Ex. 125. WEST also had 14 detections of marbled murrelets in 2015 in the suitable habitat in and around the northern portion of the parcel, though this habitat is separated from the Benson South Survey Area by the unsuitable habitat in the middle of the property. ECF No. 120 at 19.

D. 2016 Survey by Western EcoSystems Technology

The 2016 survey by WEST resulted in at least 183 murrelet detections across the Benson South Survey Area, of which 25 were sub-canopy “occupied” detections and some of the surveys had multiple observations of sub-canopy flight at the same station. ECF No. 120 at 20.

1. Benson Southeast Survey Site

WEST documented 76 detections in the Benson Southeast Survey Site. Of those, 55 detections were at survey station BR23, including 13 instances of sub-canopy behavior. At survey station BR23, WEST identified at least one possible marbled murrelet nest site in the vicinity, based on the observation of a murrelet landing in a suspected nest tree near the survey station. ECF No. 120 at 20.

2. Benson West Survey Site

WEST documented at least 94 detections in Benson West, including 12 instances of subcanopy behavior in the Benson West Survey Site. WEST documented 13 detections of murrelets in the Benson Central Survey Site in 2016, including one above-canopy visual detection and 12 audio detections. *Id.*

3. Northern Portion of Benson Ridge Property

WEST also had 54 detections of marbled murrelets in and around the northern portion of the property, including 1 sub-canopy detection. *Id.*; *see also* Appx. Fig. 3 (Trial Ex. 32).

4. Summary of 2015 and 2016 Surveys

WEST concluded that the results of its 2015 and 2016 survey efforts

demonstrated that marbled murrelets likely used the Benson West and Benson Southeast Survey Sites of the Benson South Survey Area for nesting in 2016. ECF No. 12 at 21. WEST further concluded that the Benson Central Survey Site was likely not used by murrelets for nesting in 2015 or 2016, as WEST's surveys did not identify any subcanopy behavior during those survey years. *Id.*

However, Defendants stipulate that, according to the PSG Protocol, the entire Benson South Survey Area would be considered "occupied" by marbled murrelets because two of Defendants' three survey sites within a single contiguous survey area documented "subcanopy" behavior. ECF No. 120 at 22.

**VII. Benson Ridge Survey Area, Including the Proposed Project Area, is
Occupied by the Marbled Murrelet**

After carefully reviewing all the evidence, and weighing the credibility of the witnesses, the Court finds that Plaintiffs have proven, by a preponderance of the evidence, that the Benson South Survey Area is "occupied" by the marbled murrelet. That is, Plaintiffs have proven, by a preponderance of the evidence, that marbled murrelets are nesting in the Benson Ridge South Survey Area, which includes the area proposed for timber harvest.

Under the PSG Protocol, the test for determining whether a potential habitat is "occupied" is simple: if a surveyor detects marbled murrelets during a survey visit and observes "occupied behavior," the entire stand is classified as "occupied." *See Pls.' Ex. 11 at 27; see also Marbled Murrelet v. Pac. Lumber Co.*, 880 F. Supp. 1343, 1353 (N.D. Cal. 1995) (stating that a single observation of occupied behavior under the

PSG Protocol is enough to classify a suitable stand of marbled murrelet habitat as being occupied). Subcanopy behavior is a strong indication of nesting. Golightly, Tr. Vol. 1 at 268; Falxa, Tr. Vol. 2 at 584-585; Pls.' Ex. 60 at 27.

First, Plaintiffs have proved, and Defendants do not dispute, that the Benson Ridge South Survey Area is suitable murrelet habitat. Defs.' Ex. 115; ECF No. 94 at 20; Golightly, Tr. Vol. 2 at 346, Falxa, Tr. Vol. 2 at 638-640.

Next, the sheer number of murrelet detections in the Benson South Survey Area, including occupied detections in Benson West, Benson Central, and Benson Southeast, establish that it is occupied and used for nesting by marbled murrelets. Golightly, Tr. Vol. 2 at 348-350, 357; Falxa, Tr. Vol 3 at 640, 641-642, 657; *see also* Section VII above (listing marbled murrelet survey results).

In this case, there have been just over 200 detections of marbled murrelets at Benson South Survey Area, throughout the birds' breeding season, over a period of three consecutive years. Based on the evidence at trial, key findings of which are listed in this opinion, it is reasonable to conclude that there can be only one explanation for the marbled murrelets' continued presence in the Benson Ridge South Survey Area and surrounding land: the marbled murrelet is using the Benson Ridge South Survey stand for nesting purposes. The Court expressly finds that this includes the Benson Central site where Defendants propose to harvest, based not only on the PSG Protocol, but on Defendants' "presence" observations in Benson Central and more importantly, the May 14, 2014 subcanopy detection observed by CRFW surveyor McMahon. The Court notes that under the PSG Protocol, that site is considered

occupied indefinitely. Ex. 11 at 29; *Marbled Murrelet*, 880 F. Supp. at 1353 (“even if only one instance of ‘occupied behavior’ is noted during 300 surveys, a forest will be considered a probable marbled murrelet nest stand[.]”).

VIII. Proposed Benson Snake Logging Operation will “Harm” and “Harrass” Murrelets under the Endangered Species Act

Congress enacted the ESA in 1973 to protect and conserve endangered and threatened species and the ecosystems they depend on. 16 U.S.C. § 1531(b).⁵ The ESA was and continues to be “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill* (“TVA”), 437 U.S. 153, 180 (1978); *Ctr. for Biological Diversity v. Haaland*, 998 F.3d 1061, 1063 (9th Cir. 2021). In the ESA, Congress intended to afford endangered and threatened species “the highest of priorities,” *TVA*, 437 U.S. at 174, and aimed “to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* at 184.

Section 11 of the ESA authorizes any person to bring a citizen suit “to enjoin any person . . . who is alleged to be in violation of any provision” of the ESA “or any regulation issued under the authority thereof[.]” 16 U.S.C. § 1540(g)(1)(A).

⁵ Under the ESA, an endangered species is “any species which is in danger of extinction throughout all or a significant portion of its range[.]” 16, U.S.C. § 1532(6), and a threatened species is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range[.]” *id.* § 1532(20). The ESA directs the Secretaries of the Interior and Commerce to determine whether a species should be listed as “endangered” or “threatened” and requires the Secretary of the Interior to publish and maintain a list of all species that have been designated as such. *Id.* § 1533.

Here, Plaintiffs allege that Defendants' planned Benson Snake logging operation will violate Section 9 of the ESA by "taking" marbled murrelets that use the forest in the Benson Ridge Tract for nesting and other reproductive behaviors. Under Section 9 of the ESA, it is illegal for any person to "take" any endangered species of fish or wildlife within the United States. *Id.* § 1538(a)(1)(B). Although Section 9 does not expressly cover threatened species, the ESA authorizes the Secretary⁶ to extend its protections to such species, which the Secretary has done for wildlife species listed as threatened on or before September 26, 2019, like the marbled murrelet. *Id.* §§ 1533(d), 1538(a)(1)(G); 50 C.F.R. §§ 17.21(c), 17.31(a).

The ESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). A "take" must be construed in the 'broadest possible manner' to provide maximum protection under the Act. *Babbitt v. Sweet Home Chapter of Communities for a Great Or.*, 515 U.S. 687, 704 (1995) (quoting S. Rep. No. 93-307, at 7 (1973), reprinted in 1973 U.S.C.C.A.N. 2989, 2995).

In regulation, the Secretary has defined the terms "harass" and "harm" for purposes of the ESA's "take" definition. "Harass" means:

an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.

50 C.F.R. § 17.3. And "harm" means"

⁶ The term "Secretary" means either the Secretary of the Interior or the Secretary of Commerce. Here, the term refers to the Secretary of the Interior.

an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

Id.

To prove “harm” to a listed species, a plaintiff must show: (1) actual death or injury, (2) to identifiable members of a listed species, (3) which must be proximately caused by the challenged activity and be foreseeable. *Sweet Home*, 515 U.S. at 691 n.2, 696-97 n.9, 700 n.13; *Id.* at 708-09 (O’Connor, J., concurring).

The Ninth Circuit has held that, under the regulatory definition of “harm” upheld by the Supreme Court in *Sweet Home*, impaired breeding is considered actual injury and, thus, harm to an animal. *Marbled Murrelet v. Babbitt*, 83 F.3d 1060, 1067 (9th Cir. 1996); Plaintiffs are, therefore, not required to show that Defendants’ proposed implementation of timber harvest will cause some additional “actual injury” beyond significant impairment of essential behavioral patterns of marbled murrelets in the Benson Ridge Parcel, despite Defendants’ arguments to the contrary. ECF No. 94 at 1-2, 15-16; ECF No. 138 at 3.

It is undisputed that the proposed Benson Snake logging operation will eliminate 49 acres roughly in the center of the Benson South Survey Area, which the Court found is occupied by the marbled murrelet.

Given the results of surveys by WEST and CRFW, including multiple subcanopy detections in the contiguous stand and a subcanopy detection in the proposed logging unit, the Court finds that the 49-acre proposed clearcut will result in harm by significant impairing, through the destruction and degradation of

occupied murrelet habitat, their essential behavioral patterns—causing the murrelets' ability to nest and engage essential breeding activities to cease there for 100 years or more. Tr. Vol 2 at 346-347 (proposed logging unit is occupied); *id.* at 385 (any nests in the proposed logging unit will be gone, and murrelets will not nest or engage in other breeding related activities there after the clearcut).

The proposed logging operation will result in the impairment of other essential behaviors and in fewer nesting attempts, failure to breed, lower nest abundance, reduced breeding population, lower nest success, and a lower rate of survival in adults. Golightly, Tr. Vol. 2 at 384-385:11; *id.* at 444 (the proposed clearcut will reduce the number of nests and nesting opportunities and the overall productivity of marbled murrelets in the Benson Ridge area).

In addition to direct habitat removal, the proposed logging operation will fragment a continuous stand of occupied forest in the Benson South Survey Area, which reduces the amount and heterogeneous nature of the habitat, reduces the forest patch sizes, reduces the amount of interior or core habitat, increases the amount of forest edge, isolates remaining habitat patches, and creates “sink” habitats. The ecological consequences of these habitat changes to murrelets can include what the Court finds to be a significant disruption on population viability and size, local or regional extinctions, displacement, fewer nesting attempts, failure to breed, reduced fecundity, reduced nest abundance, lower nest success. Ex. 13 at 33; Ex. 12 at 30, 41-42 (describing impacts from habitat loss and fragmentation).

Accordingly, the Court finds that Plaintiffs have established by a

preponderance of the evidence, that the proposed logging project will result in a “take” of marbled murrelets under the ESA. *See Strickland, Tr. Vol. 4 at 954-955* (agreeing that clearcutting in Benson West and Benson Southeast will result in take of marbled murrelets).

IX. Permanent Injunction

A plaintiff seeking a permanent injunction must show: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.

Cottonwood Envt'l Law Ctr. v. U.S. Forest Serv., 789 F.3d 1075, 1088 (9th Cir. 2015) (quoting *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006)).

The first prong of the permanent injunction test should be modified to match the analogous prong in the preliminary injunction test: plaintiffs must show that they are “likely to suffer irreparable harm in the absence of preliminary relief.” *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 20 (2008); *see also S. Yuba River Citizens League*, 804 F.Supp.2d at 1052 (concluding that where a similar procedural posture existed, the court would look at “whether the measures are necessary to prevent irreparable injury[.]”).

“[T]he ESA strips courts of at least some of their equitable discretion in determining whether injunctive relief is warranted.” *Cottonwood*, 789 F.3d at 1090. The ESA removes the latter three factors in the four-factor injunctive relief test from

our equitable discretion. When considering an injunction under the ESA, courts presume that remedies at law are inadequate, that the balance of interests weighs in favor of protecting endangered species, and that the public interest would not be disserved by an injunction. *Id.*

The ESA does not, however, restrict a court's discretion to decide whether a plaintiff has suffered an irreparable injury. *Cottonwood*, 789 F.3d at 1090. “[T]here is no presumption of irreparable injury where there has been a procedural violation in ESA cases.” *Id.* at 1091. Plaintiffs must demonstrate that irreparable injury “is likely in the absence of an injunction.” *Winter*, 555 U.S. at 22 (emphasis in original). A “possibility” of irreparable harm cannot support an injunction. *Id.*

In this case, Plaintiffs have demonstrated that they are likely to suffer irreparable harm for themselves and the marbled murrelet in the absence of injunctive relief. *Id.* at 7, 20.

The cause of the irreparable injury to Plaintiffs and the marbled murrelet is Defendants' proposed implementation of the Benson Snake logging operation. The proposed operation will cause a definite and imminent threat of harm to the marbled murrelet. The harvesting of the 49 acres in the center of a continuous stand of suitable murrelet habitat will likely cause a violation of the ESA by sufficiently degrading the birds' critical nesting habitat to the extent that it will significantly impair the marbled murrelets' essential behavioral patterns, including breeding, feeding, nesting, and sheltering, described above.

Consequently, Plaintiffs have demonstrated that a permanent injunction is

warranted in this case.

CONCLUSIONS OF LAW

Defendants proposed implementation of the Benson Snake logging operation will “harm” the marbled murrelet as defined in 50 C.F.R. § 17.3 and thereby cause a “take” of the species in violation of 16 U.S.C. § 1538(a)(1)(B).

Defendants’ proposed implementation to harvest timber within the Benson South Survey Area, specifically, the 49 acres identified at trial, will “harass” the marbled murrelet as defined in 50 C.F.R. § 17.3, and thereby cause a “take” of the species in violation of 16 U.S.C. § 1538(a)(1)(B).

A permanent injunction prohibiting Defendants’ implementation of its proposed logging operation is warranted under 16 U.S.C. § 1540.

Plaintiffs are entitled to reasonable attorney fees and costs.

It is so ORDERED and DATED this 29th day of July 2022.

/s/Ann Aiken

ANN AIKEN

United States District Judge

APPENDIX

FIGURE 1

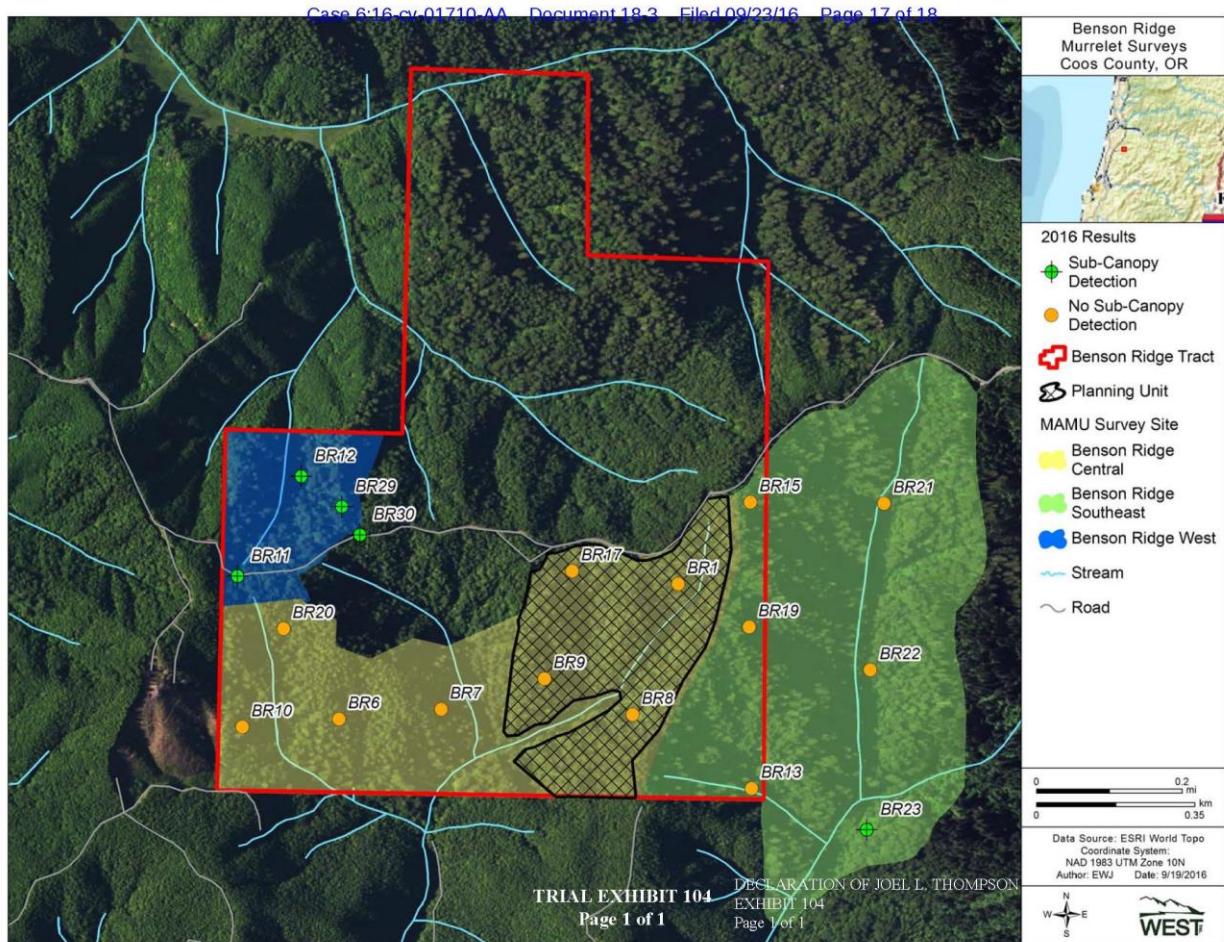


FIGURE 2

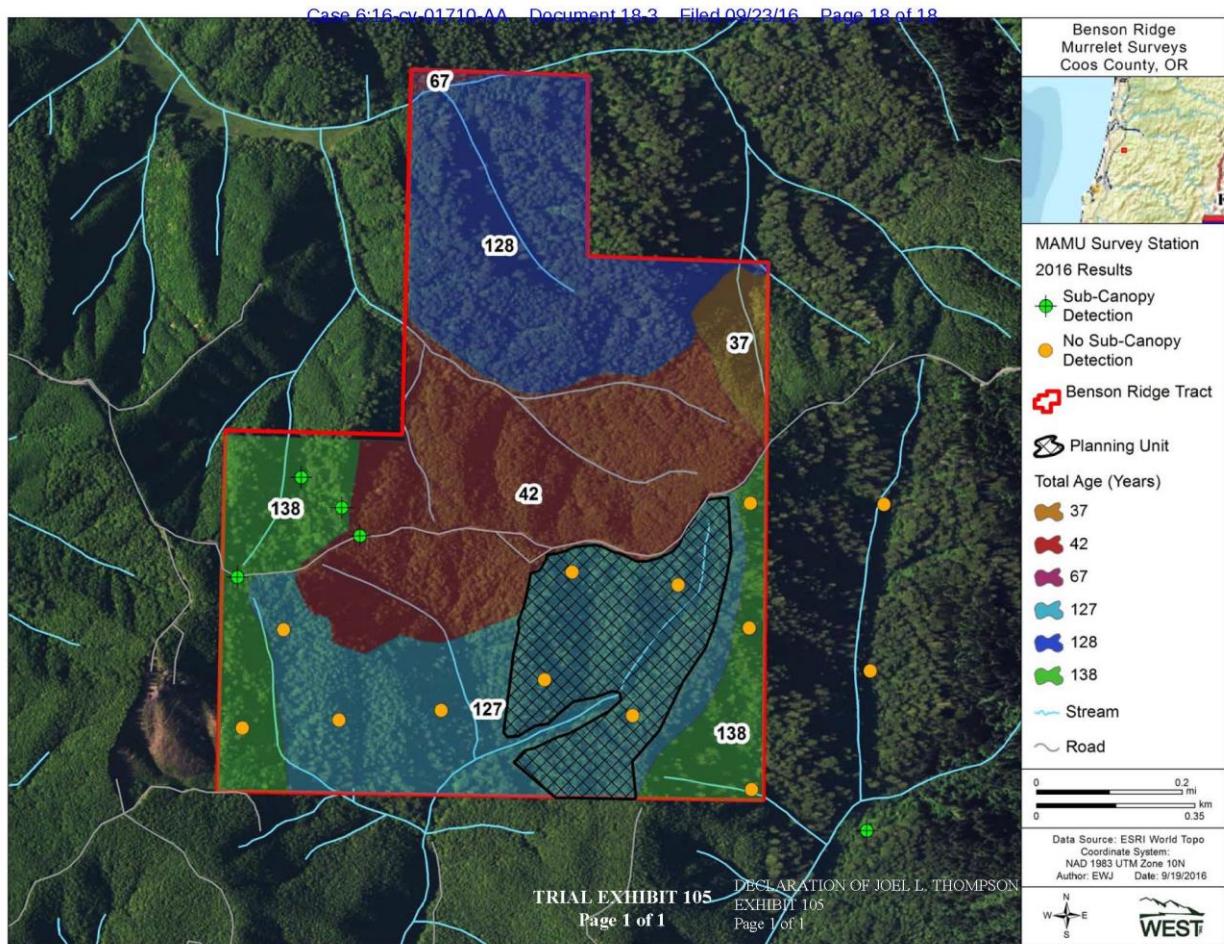


FIGURE 3

Benson Ridge 2016 Murrelet Surveys FINAL Report – Confidential and Attorney-Client Privileged Work Product

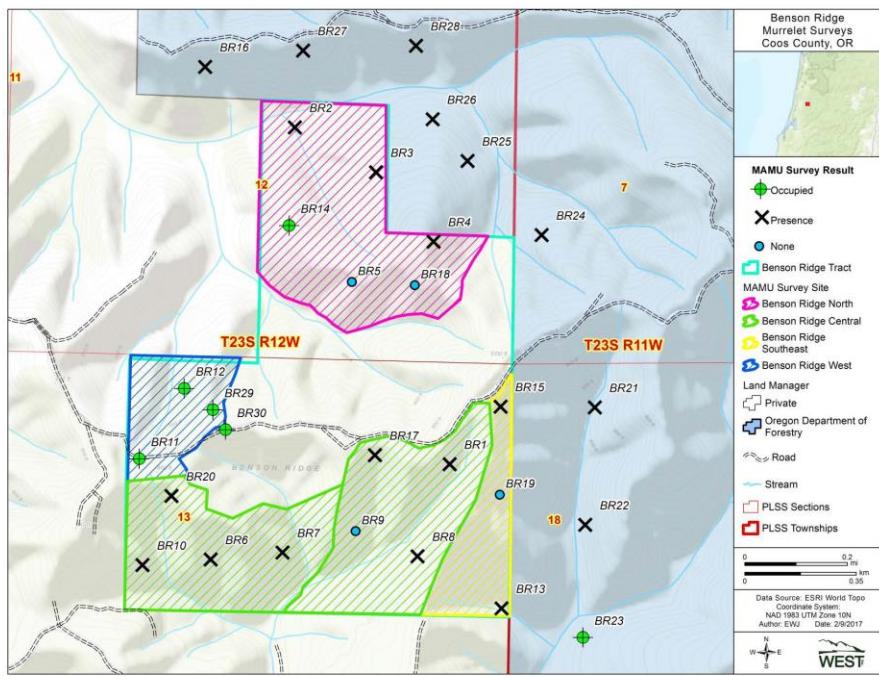


Figure 3. Survey results of 2015 and 2016 combined survey results. The classification of each point was based on the 2-year effort.

WEST, Inc.

10

February 15, 2017
Plaintiffs' Exhibit 32, Page 12